

RESPONSE TO RESTRICTION REQUIREMENT  
U.S. Appln. No. 10/067,291

IN THE CLAIMS:

Claims 1-22 (Cancelled).

B1  
Claim 23. (New) . An isolated DNA molecule encoding a protein comprising an amino acid sequence selected from the group consisting of:

- (a) an amino acid sequence represented by SEQ ID NO:1;
- (b) an amino acid sequence represented by SEQ ID NO:1, which contains an amino acid substitution therein, wherein said protein converts acetophenone to an optically active 1-phenylethylamine in the presence of a racemic mixture of sec-butylamine;
- (c) an amino acid sequence encoded by nucleotides 1 to 1017 of the nucleotide sequence represented by SEQ ID NO:2;
- (d) an amino acid sequence having 60% or greater amino acid identity with the amino acid sequence represented by SEQ ID NO:1;
- (e) an amino acid sequence having 80% or greater amino acid sequence identity with the amino acid sequence represented by SEQ ID NO:1, wherein said protein converts acetophenone to an optically active 1-phenylethylamine in the presence of a racemic mixture of sec-butylamine and has a MW of about 37 kDa as a monomer; and
- (f) an amino acid sequence having 60% or greater amino acid identity with the amino acid sequence

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represented by SEQ ID NO:1, wherein said protein converts acetophenone to an optically active 1-phenylethylamine in the presence of a racemic mixture of sec-butylamine, and wherein said protein is obtainable from a *Mycobacterium*.

Claim 24. (New) An isolated DNA molecule comprising a nucleotide sequence selected from the group consisting of:

- (a) a nucleotide sequence comprising nucleotides 1 to 1017 of the nucleotide sequence represented by SEQ ID NO:2; and,
- (b) a nucleotide sequence comprising nucleotides 1 to 1017 of the nucleotide sequence represented by SEQ ID NO:2, which contains a nucleotide substitution of adenine to guanine at nucleotide 4;
- (c) a nucleotide sequence of about 1020 bp which is amplified by PCR using as primers:
  - (i) an oligonucleotide comprising nucleotides 1 to 28 of the nucleotide sequence represented by SEQ ID NO:2; or an oligonucleotide comprising the nucleotide sequence represented by SEQ ID NO:11, and
  - (ii) an oligonucleotide comprising a nucleotide sequence complementary to the nucleotide sequence comprising nucleotides 999 to 1020 of the

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nucleotide sequence represented by SEQ  
ID NO:2, and  
as a template,

(iii) chromosomal DNA obtained from a  
Mycobacterium and which encodes a  
protein which converts acetophenone to  
an optically active 1-phenylethylamine  
in the presence of a racemic mixture of  
sec-butylamine.

= Claim 25. (New) An isolated DNA molecule comprising  
nucleotides 1 to 1017 of the nucleotide sequence represented by  
SEQ ID NO:2.

Claim 26. (New) An isolated DNA molecule comprising  
nucleotides 1 to 1017 of the nucleotide sequence represented by  
SEQ ID NO:2, which contains a nucleotide substitution of adenine  
to guanine at nucleotide 4.

Claim 27. (New) An isolated DNA molecule comprising a  
promoter operably linked to the isolated DNA molecule of  
Claim 23.

Claim 28. (New) A vector comprising the isolated DNA  
molecule Claim 23.

Claim 29. (New) A transformant <sup>cell</sup> obtainable by  
transducing the isolated DNA molecule of Claim 23 into a host  
cell.

Claim 30. (New) A transformant obtainable by  
transducing the vector of Claim 28 into a host cell.

Claim 31. (New) The transformant according to Claim 29  
or Claim 30, wherein the host cell is a microorganism cell.

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Claim 32. (New) A method for producing a transformant, comprising transducing the isolated DNA molecule of Claim 23 or the vector of Claim 28, into a host cell.

Claim 33. (New) A method for producing a protein which converts acetophenone to an optically active 1-phenylethylamine in the presence of a racemic mixture of sec-butylamine comprising culturing a microorganism comprising the isolated DNA molecule of Claim 23 under suitable conditions to produce said protein.

Claim 34. (New) The method according to Claim 33, wherein said microorganism is the transformant of Claim 29 or 30.